CLAIMS

What is claimed is:

1. A method for coding and identification in a wireless transmit and receive protocol for single-frequency wireless peripheral devices, using ASK Modulation and setting a single frequency as the carrier frequency of a wireless system having a first data-transmitting unit, a second data-transmitting unit and a data-receiving unit, to achieve transmission of digital data, the method comprises the steps of:

setting the packet transmission time of the first data packet and first ID packet of the first data-transmitting unit, and the second data packet and second ID packet of the second data-transmitting unit, and sending the packet twice during one packet transmission time;

encoding the data of the first data packet of the first data-transmitting unit, and the second data packet of the second data-transmitting unit, and setting each block of the data packet according to the report rate of the first data-transmitting unit and the second data-transmitting unit;

setting the first ID packet of the first data-transmitting unit and the second ID packet of the second data-transmitting unit to differentiate the first data-transmitting unit and the second data-transmitting unit, and setting the content of each block of the data packets according to the report rate of the first and second data-transmitting unit; and

configuring an identification key, where the communication system is in a data-encoding status and transmitting the first and second data packets, and pressing the identification key switches the system into a data-identifying status that allows the system to send the first and second ID packets.

2. The method according to claim 1, wherein the first data-transmitting unit is a wireless keyboard, the second data-transmitting unit is a wireless mouse, the first data packet is a keyboard data packet, the second data packet is a mouse data packet, the first ID packet is a

keyboard ID packet, and the second ID packet is a mouse ID packet.

3. The method according to claim 1, wherein said single-frequency transmission device is selected from the group consisting of a RF transmission device and an IR transmission device.

4. The method according to claim 1, wherein the repeated sending method sends a first data packet, and sends it again after time A, and completes within time T1, where T1 >= (4A + 4B); the repeated sending method sends the second data packet twice, with a time of separation of (A + 2B), and completes within T3, where T3 >= (4A + 4B), A is the time required to send the second data packet, and B is the time required to send the first data packet.

5. The method according to claim 1, wherein the repeated sending method sends a first ID packet, and sends it again after time A, and completes within time T1, where T1 >= (4A + 4B); the repeated sending method sends the second ID packet twice, with a time of separation of (A + 2B), and completes within T3, where T3 = (4A + 4B), A is the time required to send the second ID packet, and B is the time required to send the first ID packet.

6. The method according to claim 1 or 2, wherein the mouse data packet is a 5 Bytes structure, wherein the composition of each Byte is as follows:

Byte 1 is the packet command, which comprises of:

Device type: used to identify the data-transmitting unit type;

Sequence number: used to identify the sequence number of the packets received;

Battery Low: the status of the battery of the data-transmitting unit;

Set: used to identify the ID code status;

M: status of the middle button of the mouse;

R: status of the right button of the mouse;

L: status of the left button of the mouse;

wherein the device type is two bits, and the rest are single bit;

Byte 2 is the data for the vector indicating the motion of the mouse in the x direction, where a negative direction is represented in 2's complement;

Byte 3 is the data for the vector indicating the motion of the mouse in the y direction, where a negative direction is represented in 2's complement;

Byte 4 is the mouse command, which includes the rest of the mouse-related commands:

YS: the sign bit of the motion in the X direction.

XS: the sign bit of the motion in the Y direction.

Z0-Z3: motion of the mouse in the Z direction.

B5: status of the fifth button of the mouse;

B4: status of the fourth button of the mouse;

wherein the Z0-Z3 uses 4 bits, and the rest uses 1 bit each; and

Byte 5 is Checksum, used to detect any errors associated with the packet.

7. The method according to claim 1 or 2, wherein the keyboard data packet is a 3 Bytes structure, wherein the composition of each Byte is as follows:

Byte 1 is the packet command, which consists of:

Device type: used to identify the data-transmitting unit type;

Sequence number: used to identify the sequence number of the packets received;

Battery Low: the status of the battery of the data-transmitting unit;

Set: used to identify the ID code status;

M/B: indicates whether the key is being hit or deleted;

End: status of the keyboard, indicating whether it is being used;

Byte 2 is Key Number, which outputs the code of the keys used; and

Byte 3 is Checksum, used to detect any errors associated with the packet.

8. The method according to claim 1, 2, or 4, wherein the data packets of the mouse and the keyboard comprise of bits '0' and '1', packet start and packet end data, and the duration

of the bits '0', '1', and the packet start and packet end data are to be controlled by ASK Modulation.

9. The method according to claim 8, wherein the bit 0 is 30μs of high potential and 30μs of zero potential; the bit 1 is 40μs of high potential and 40μs of zero potential; the packet start data is 55μs of high potential and 55μs of zero potential; the packet end data set to be 70μs of high potential and 70μs of zero potential.

10. The method according to claim 1 or 2, wherein the ID packet of the mouse is a 5 Bytes structure, where the composition of each Byte is as follows:

Byte 1 is the packet command, which consists of:

Device type: used to identify the data-transmitting unit type;

Sequence number: used to identify the sequence number of the packets received;

Battery Low: the status of the battery of the data-transmitting unit;

Set: used to identify the ID code status;

Count down: switches the ID status upon completing count down;

wherein device type is two bits, count down is three bits, and the rest are one bit;

Byte 2 is now changed to the ID of the device, which is generated randomly;

Byte 3 is Checksum;

Byte 4 is the 2's complement of Checksum;

Byte 5 is Checksum.

11. The method according to claim 1 or 2, wherein the ID packet of the keyboard is a 3 Bytes structure, where the composition of each Byte is as follows:

Byte 1 is the packet command, which consists of:

Device type: used to identify the data-transmitting unit type;

Sequence number: used to identify the sequence number of the packets received;

Battery Low: the status of the battery of the data-transmitting unit;

Set: used to identify the ID code status;

Count down: switches the ID status upon completing count down;

wherein device type is two bits, count down is three bits, and the rest are one bit;

Byte 2 is now changed to the ID of the device, which is generated randomly;

Byte 3 is Checksum.

12. The method according to claim 1, 2 or 5, wherein the ID packets of the mouse and the keyboard comprise of bits '0' and '1', packet start and packet end data, and the duration of the bits '0', '1', and the packet start and packet end data are to be controlled by ASK Modulation.

13. The method according to claim 12, wherein bit 0 is 30μs of high potential and 30μs of zero potential; bit 1 is 40μs of high potential and 40μs of zero potential; the packet start data is 55μs of high potential and 55μs of zero potential; the packet end data set to be 70μs of high potential and 70μs of zero potential.

14. A system for coding and identification in a wireless transmit and receive protocol for single-frequency peripheral devices, using ASK Modulation to control the time required by the system to transfer bits of the data packet, and repeated sending to send the data packet of the system twice, which comprises:

a first data-transmitting unithaving a first ID key used to set the first ID packet and a wireless transmission module used to transmit the first data packet, where the transmitting time of the first data packet and the first ID packet is (4A + 4B);

a second data-transmitting unit, with a second ID key to set the second ID packet, and a wireless transmission module used to transmit the second data packet, where the transmitting time of the second data packet and the second ID packet is (4A + 4B); and

a data-receiving unit, with a third data-receiving unit, used to receive the first data packet, the first ID packet, the second data packet and the second ID packet;

wherein B is the transmission time of the first data packet or the first ID packet, while A is the transmission time for the second data packet or the second ID packet.